

CLAIMS

1. A polyolefin-based thermoplastic polymer formulation characterized by comprising, by weight of the total weight of the polymers, 10-80% of polypropylene, 10-85% by weight of EP(D)M rubber, 0-40% of polybutadiene, and 0,5-60% of at least one unsaturated compound selected from: ethylene-vinyl acetate copolymers and terpolymers, NBR, ethylene-acrylic ester copolymers and terpolymers, and polybutadiene-based polyurethanes or their precursors, or mixtures thereof, the maximum total amount of polybutadiene and unsaturated compounds being 60% by weight, said polybutadiene and unsaturated compounds being grafted onto the polypropylene and the EP(D)M rubber.
2. A formulation according to Claim 1, in which said precursors of polybutadiene-based polyurethanes are one or more polybutadienes provided with terminal groups selected from -NCO, -OH, -COOH.
3. A formulation according to Claim 1 or 2, in which said EP(D)M rubbers are oil extended at 30-60% by weight.
4. A formulation according to any previous Claim, characterized by the polybutadiene-based polyurethane being the reaction product of a polybutadiene derivative having an -NCO group with a polybutadiene derivative having a terminal group selected from -OH and -COOH and/or with a diol known in the art.
5. A composition for the preparation of a formulation according to any preceding Claim, characterized by comprising by weight out of the total weight of the polymers, 10-80% of a polyolefin selected from polyethylene and polypropylene, 10-85% by weight of an EP(D)M rubber, 0-40% of a polybutadiene, 0,5-60% of at least one unsaturated

compound selected from ethylene-vinyl acetate copolymers and terpolymers, NBR, ethylene-acrylic ester copolymers and terpolymers, and polybutadiene-based polyurethanes or their precursors the maximum total amount of polybutadiene and of unsaturated compounds being 60% by weight.

6. A composition according to Claim 5, comprising 0,5-20% of one or more polybutadienes provided with terminal groups selected from :
-NCO, -OH, -COOH.

7. A composition according to claim 5 or 6, further comprising 0.1-1.5% of a radical-generating agent at the processing temperature of the composition.

8. A process for the production of a thermoplastic polymer formulation, characterized by mixing a composition comprising, by weight of the total weight of the polymers, 10-80% of a polyolefin selected from polyethylene and polypropylene, 10-85% by weight of an EP(D)M rubber, 0-40% of a polybutadiene, 0,5-60% of at least one unsaturated compound selected from ethylene-vinyl acetate copolymers and terpolymers, NBR, ethylene-acrylic ester copolymers and terpolymers, and polybutadiene-based polyurethanes or their precursors, the maximum total amount of polybutadiene and of unsaturated compounds being 60% by weight, and 0,1-0,6% of at least one agent generating radicals, at a temperature such as to activate said radical-generating agent to effect a partial cross-linking of at least some of the polymers present.

9. A process according to Claim 8, in which at least one polybutadiene provided with terminal groups selected from -OH,

-NCO and -COOH, is used as unsaturated compound.

10. A process according to Claim 8 or 9, in which said polybutadiene-based polyurethane is prepared by reaction of -NCO functionalized polybutadienes with a -OH or -COOH polybutadienes and/or a diol.

11. A process for the preparation of an unsaturated polybutadiene-based polyurethane, in which a polybutadiene prepolymer provided with isocyanate end groups is reacted with one or more diols.

12. A process for the preparation of an unsaturated polybutadiene-based polyurethane, in which a polybutadiene prepolymer provided with hydroxyl terminal groups is reacted with one or more diisocyanates.

13. A trim element for autovehicles, characterized by having an external surface made at least partly with a thermoplastic material having a formulation according to any Claim 1 to 4.

14. A trim element for autovehicles according to Claim 13, comprising an internal support layer and an external skin layer, said external skin layer corresponding to said surface.